

REMARKS

Applicants acknowledge receipt of an Office Action dated January 8, 2007. In this response, Applicants have amended claims 1, 4 and 6. No new matter has been added. Following entry of these amendments, claims 1, 3-6, and 8-11 are pending in the application.

Reconsideration of the present application is respectfully requested in view of the foregoing amendments and the remarks which follow.

Rejection Under 35 U.S.C. § 103

Claims 1, 3-6, 8 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,802,609 to Mihashi et al. ("Mihashi '609") in view of U.S. Patent 5,929,970 to Mihashi et al. ("Mihashi '970") and further in view of U.S. Patent 5,141,304 to Ichihashi et al. ("Ichihashi"). Claims 9 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mihashi '609 in view of Mihashi '970 and further in view of Ichihashi, and further in view of U.S. Pub. 2003/0189690 to Mihashi et al. ("Mihashi '690"). Applicants respectfully traverse this rejection for at least the following reasons.

Independent claim 1 recites:

An ophthalmic measuring apparatus comprising:

a first illuminating optical system including a first light source configured to emit a light flux of a first wavelength, for illuminating a retina of a subject eye, to be condensed on a place close to the retina, with the first illumination light flux from the first light source;

a first light receiving optical system including a first conversion member configured to convert a reflected light flux reflected by the retina of the subject eye into at least 17 light fluxes, and a first light receiving part configured to receive the plural light fluxes converted by the first conversion member as first received light signals, the first light receiving optical system configured to guide the reflected light flux to the first light receiving part;

first movement means for moving a condensing position of the first illuminating optical system;

second movement means for optically moving the first light receiving part and the first conversion member along an optical axis;

a mode changeover part configured to switch between an interlock mode in which movement operations of the first movement means and the second movement means are interlocked and an independent mode in which movement operations of the first movement means and the second movement means can be independently controlled, in which the first light receiving part and the first conversion member are moved by the second movement means along the optical axis independently of the movement operation of the first movement means; and

an arithmetic part configured to obtain an optical characteristic of the subject eye by performing a Zernike analysis on the basis of tilt angles of the light fluxes obtained by the first light receiving part,

wherein

the first movement means and the second movement means are configured to adjust the condensing position of the first illumination light flux and condensing positions of the light fluxes converted by the first conversion member according to received light positions and/or received light levels of the first received light signals at the first light receiving part, and

when the independent mode is selected by the mode changeover part, the arithmetic part obtains received light position intervals from the first received light signals at the first light receiving part, and the condensing positions of the light fluxes converted by the first conversion member are configured to be adjusted by the *second movement means, which moves the first light receiving part and the first conversion member on the basis of the obtained intervals independently of the first movement means, so that the obtained intervals fall within a predetermined interval range.*

The references applied in the rejection of the claims fail to disclose at least the above italicized features of claim 1.

Mihashi '609 fails to disclose a mode changeover part *configured to switch between an interlock mode and an independent mode* as recited in claim 1. Mihashi '609 does not disclose an independent mode as recited in claim 1, and thus further makes no suggestion of a *mode changeover part configured to switch between an interlock mode and an independent mode*. The Office Action asserts on page 3 that Mihashi '609 discloses a "changeover mode movements where only the first illuminating optical system is moved (or adjusted) (See Col. 6, lines 59-66) and where only the light receiving part including a conversion member is moved (or adjusted) (See Col. 7, lines 3-8)" and also discloses that "the illuminating optical system and light receiving optical are move together during an eye examination (See Col. 4,

lines 55-60)". Applicants respectfully disagree to the extent that the Office Action alleges that Mihashi '609 discloses an independent mode or switching between modes.

Mihashi '609 discloses only an interlock mode, not an independent mode. The sections of Mihashi '609 cited in the Office Action merely disclose details of an interlock mode. The Office Action on page 3 appears to recognize this deficiency in Mihashi '609 further stating on page 3, "Mihashi et al ('609) does not expressly disclose an independent movement of an illuminating optical system and a light receiving optical system." Mihashi '970 and Ichihashi fail to cure the deficiencies of Mihashi '609.

Even if Mihashi '970 is interpreted to disclose an independent mode, the combination of Mihashi '970 and Mihashi '609 does not suggest any *mode changeover part configured to switch between* an interlock mode and an independent mode. If Mihashi '609 were modified based on the disclosure of Mihashi '970, the resultant combination would merely have the interlock mode of Mihashi '609 replaced with the independent mode of Mihashi '970. There is no suggestion in Mihashi '970 and Mihashi '609 to *switch between* an interlock mode and an independent mode. Thus, even if Mihashi '970 and Mihashi '609 were combined, the resultant structure would not have all the features of claim 1.

Ichihashi also fails to cure the deficiencies of Mihashi '609. Ichihashi merely discloses a "laser light projection section 1 and light receiving section 2 can each *rotate independently* in a horizontal plane about an axis 50" (See Col. 4 line 68 to Col. 5 line 1). Ichihashi does not disclose a light receiving section, as recited in claim 1, which *moves along an optical axis*. Thus, the teaching of Ichihashi are not transferable to Mihashi '609. Moreover, there is no suggestion in Ichihashi and Mihashi '609 to *switch between* an interlock mode and an independent mode.

Mihashi '690 also fails to cure the deficiencies of Mihashi '609.

Moreover, none of Mihashi '609, Mihashi '970, or Ichihashi discloses the feature of claim 1 of the "second movement means, which moves the first light receiving part and the

first conversion member on the basis of the obtained intervals independently of the first movement means, so that the obtained intervals fall within a predetermined interval range.” For example, Mihashi ‘970, which the Office Action relies upon to disclose “the luminous efficient adjustment is performed so that the light-receiving level in the light receiving unit becomes its maximum or falls within a predetermined interval range” does not disclose this feature of claim 1. Mihashi ‘970 discloses that “luminous efficiency adjustment is performed so that the light-receiving level in the light receiving unit becomes its maximum” (See Col. 12, lines 15-17), and that “the level of light received by the light receiving device 500 is kept at a maximum” (See Col. 4, lines 21-22). Mihashi ‘970, however, does not disclose that the second movement means “moves the first light receiving part and the first conversion member on the basis of the obtained intervals independently of the first movement means, so that the obtained intervals fall within a predetermined interval range”, as recited in claim 1.

Independent claim 6 recites:

An ophthalmic measuring apparatus comprising:

a first illuminating optical system including a first light source configured to emit a light flux of a first wavelength, for illuminating a retina of a subject eye, to be condensed on a place close to the retina, with the first illumination light flux from the first light source;

a first light receiving optical system including a first conversion member configured to convert a reflected light flux reflected by the retina of the subject eye into at least 17 light fluxes, and a first light receiving part configured to receive the plural light fluxes converted by the first conversion member, the first light receiving optical system configured to guide the reflected light flux to the first light receiving part;

first movement means for moving a condensing position of the first illuminating optical system;

second movement means for optically moving the first light receiving part and the first conversion member along an optical axis;

an arithmetic part configured to obtain an optical characteristic of the subject eye by combining tilt angle data of the light fluxes obtained by the first light receiving part under different conditions by the first movement means and the second movement means, and to perform a Zernike analysis on the basis of the combined data; and

a mode changeover part configured to switch between an interlock mode in which movement operations of the first movement means and the second movement means are interlocked, and an independent mode in which movement operations of the first movement means and the second movement means are independently controlled, in which the first light receiving part and

the first conversion member are moved by the second movement means along the optical axis independently of the movement operation of the first movement means,

wherein

the arithmetic part configured to obtain the optical characteristic of the subject eye by combining the tilt angle data of the light fluxes obtained by the first light receiving part under different conditions in each of the interlock mode and the independent mode, and to perform the Zernike analysis on the basis of the combined data.

The references applied in the rejection of the claims fail to disclose at least the above italicized features of claim 6.

With respect to the recited feature “in which movement operations of the first movement means and the second movement means are interlocked, and an independent mode in which movement operations of the first movement means and the second movement means are independently controlled, then the first light receiving part and the first conversion member are moved by the second movement means along the optical axis independently of the movement operation of the first movement means”, Mihashi ‘609, Mihashi ‘970, and Ichihashi do not suggest this feature for reasons analogous to those discussed above with respect to claim 1. Moreover, Mihashi ‘609, Mihashi ‘970, and Ichihashi, which do not suggest switching between the interlock mode and independent mode, also do not disclose or suggest the feature of claim 6 of “the arithmetic part configured to obtain the optical characteristic of the subject eye by combining the tilt angle data of the light fluxes obtained by the first light receiving part under different conditions in each of the interlock mode and the independent mode, and to perform the Zernike analysis on the basis of the combined data.”

The dependent claims are patentable for at least the same reasons as their respective independent claims, as well as for further patentable features recited therein.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully submit that all of the pending claims are now in condition for allowance. An early notice to this effect is

earnestly solicited. If there are any questions regarding the application, the Examiner is invited to contact the undersigned at the number below.

Respectfully submitted,

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FOLEY & LARDNER LLP

Customer Number: 22428

Telephone: (202) 672-5414

Facsimile: (202) 672-5399

By Thomas G. Bilodeau

Richard L. Schwaab

Attorney for Applicants

Registration No. 25,479

Thomas G. Bilodeau

Attorney for Applicant

Registration No. 43,438

THE COMMISSIONER IS HEREBY AUTHORIZED TO CHARGE ANY ADDITIONAL FEES WHICH MAY BE REQUIRED REGARDING THIS APPLICATION UNDER 37 C.F.R. §§ 1.16-1.17, OR CREDIT ANY OVERPAYMENT, TO DEPOSIT ACCOUNT NO. 19-0741. SHOULD NO PROPER PAYMENT BE ENCLOSED HERewith, AS BY A CHECK BEING IN THE WRONG AMOUNT, UNSIGNED, POST-DATED, OTHERWISE IMPROPER OR INFORMAL OR EVEN ENTIRELY MISSING, THE COMMISSIONER IS AUTHORIZED TO CHARGE THE UNPAID AMOUNT TO DEPOSIT ACCOUNT NO. 19-0741. IF ANY EXTENSIONS OF TIME ARE NEEDED FOR TIMELY ACCEPTANCE OF PAPERS SUBMITTED HERewith, APPLICANTS HEREBY PETITIONS FOR SUCH EXTENSION UNDER 37 C.F.R. § 1.136 AND AUTHORIZES PAYMENT OF ANY SUCH EXTENSIONS FEES TO DEPOSIT ACCOUNT NO. 19-0741.